

FORM PTO-1390 REV. 5-93		US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEYS DOCKET NUMBER <b>P99,2572</b>
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>			U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>09/463495</b>
INTERNATIONAL APPLICATION NO. <b>PCT/DE98/01856</b>	INTERNATIONAL FILING DATE July 3, 1998	PRIORITY DATE CLAIMED July 25, 1997	
TITLE OF INVENTION "ROLL STORAGE SYSTEM FOR SHEET-SHAPED OBJECTS"			
APPLICANT(S) FOR DO/EO/US Ulrich Neumann et al			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay.</li> <li>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of International Application as filed (35 U.S.C. 371(c)(2))             <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol>			
Items 11. to 16. below concern other document(s) or information included:			
11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98; (PTO 1449, Prior Art, Search Report).			
12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included. (SEE ATTACHED ENVELOPE)			
13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.			
14. <input type="checkbox"/> A substitute specification.			
15. <input type="checkbox"/> A change of power of attorney and/or address letter.			
16. <input checked="" type="checkbox"/> Other items or information: <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> Submission of Drawings</li> <li>b. <input checked="" type="checkbox"/> EXPRESS MAIL #EL408260563US dated January 25, 2000</li> </ol>			

314 PCT/DE 25 JAN 2000

U.S. APPLICATION NO. (if known) see 37 C.F.R. 1.51 <b>09/463495</b>		INTERNATIONAL APPLICATION NO. <b>PCT/DE98/01856</b>		ATTORNEY'S DOCKET NUMBER <b>P99,2572</b>	
17. <input checked="" type="checkbox"/> The following fees are submitted:  <b>BASIC NATIONAL FEE (37 C.F.R. 1.492(a)(1)-(5):</b> Search Report has been prepared by the EPO or JPO ..... \$840.00  International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) ..... \$670.00  No international preliminary examination fee paid to USPTO (37 C.F.R. 1.482) but international search fee paid to USPTO (37 C.F.R. 1.445(a)(2)) ..... \$760.00  Neither international preliminary examination fee (37 C.F.R. 1.482) nor international search fee (37 C.F.R. 1.445(a)(2)) paid to USPTO ..... \$970.00  International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... \$ 96.00  <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				CALCULATIONS	PTO USE ONLY
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 C.F.R. 1.492(e)).				\$	
Claims	Number Filed	Number Extra	Rate		
Total Claims	7 - 20 =	0	X \$ 18.00	\$	
Independent Claims	1 - 3 =	0	X \$ 78.00	\$	
Multiple Dependent Claims			\$260.00 +	\$	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$840.00	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 C.F.R. 1.9, 1.27, 1.28)				\$	
<b>SUBTOTAL =</b>				\$ 840.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE =</b>				\$ 840.00	
Fee for recording the enclosed assignment (37 C.F.R. 1.21(h). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. 3.28, 3.31). \$40.00 per property				\$40.00 (separate)	
<b>TOTAL FEES ENCLOSED =</b>				\$ 840.00	
				Amount to be refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>840.00</u> to cover the above fees is enclosed.					
b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.					
c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>08-2290</u> . A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:			<u>Steven H. Noll</u> SIGNATURE		
Hill & Simpson A Professional Corporation 85th Floor Sears Tower Chicago, Illinois 60606			<u>Steven H. Noll</u> NAME		
			<u>28,982</u> Registration Number		

BOX PCT  
IN THE UNITED STATES ELECTED OFFICE  
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE  
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

5

**AMENDMENT "A" PRIOR TO ACTION**

APPLICANTS: Ulrich Neumann et al

ATTORNEY DOCKET NO.: P992572

INTERNATIONAL APPLICATION NO: PCT/DE98/01856

INTERNATIONAL FILING DATE: July 3, 1998

10 INVENTION: "ROLL STORAGE SYSTEM FOR SHEET-SHAPED  
OBJECTS"

Assistant Commissioner for Patents,  
Washington, D.C. 20231

Sir:

15 Applicants herewith amend the above-referenced PCT application as follows,  
and request entry of the Amendment prior to examination in the United States  
National Examination Phase.

**IN THE SPECIFICATION:**

On page 1, cancel lines 1 and substitute the following therefor:

20

**--TITLE**

"A ROLL STORAGE SYSTEM FOR GUIDING SHEET MEMEBERS"

**BACKGROUND OF THE INVENTION**

**Field of the Invention--;**

above line 12, insert the left margin-justified heading:

25

**Description of the Prior Art--.**

003210" SHEET 01450

in line 13, cancel "DE" and substitute --German Patent Document

No.--therefor;

in line 29, cancel "A means of guiding" and substitute --Guiding--

therefor;

5 On page 2, in line 2, cancel "DE" and substitute --German Patent Document

No.--therefor;

above line 10, insert the following centered heading:

**--SUMMARY OF THE INVENTION--**;

in line 16, cancel "comprises" and substitute --includes-- therefor;

10 in line 36, cancel "usual" and substitute --used-- therefor.

On page 3, in line 11, cancel "pretensioned" and substitute --biased-- therefor;

in line 15, cancel "comprises" and substitute --includes-- therefor.

On page 4, in lines 14 and 15, cancel "In the drawings";

above line 16, insert the following centered heading:

15 **--DESCRIPTION OF THE DRAWINGS--**.

in line 20, cancel "," and substitute --.-- therefor;

in lines 22 and 23, cancel ", and" and substitute --.-- therefor;

in line 25, cancel "that is to say" and substitute --i.e.-- therefor;

above line 27, insert the following centered heading:

20 **--DESCRIPTION OF THE PREFERRED EMBODIMENT--**.

in line 28, cancel "comprises" and substitute --includes-- therefor;

in line 32, cancel "to and fro".

On page 5, in line 36, cancel "comprising" and substitute --including--  
therefor.

On page 6, in line 1, cancel "pretensioned" and substitute --biased-- therefor;

5 in line 3, cancel "comprise" and substitute --include-- therefor.

On page 7, below line 9, insert the following paragraph:

--Although modifications and changes may be suggested by those skilled in  
the art, it is the intention of the inventors to embody within the patent warranted  
hereon all changes and modifications as reasonably and properly come within the  
10 scope of their contribution to the art.--

**IN THE CLAIMS:**

On page 8, cancel "Patent claims" and substitute:

--WE CLAIM AS OUR INVENTION-- therefor.

Please cancel claims 1-7 and substitute claims 8-15 therefor:

15 8. A roll storage system having a roll storage system housing for guiding  
a plurality of sheet members comprising:

a roll storage system supply roll, storage roll, storage film, plurality of  
deflectors, and guide member being enclosed within said roll storage  
system housing;

said roll storage system supply roll, storage roll and each of said deflectors  
 rotatably mounted for guiding said roll storage system storage film  
 between said roll storage system supply roll and storage roll;

said guide member mounted for guiding each of said sheet members into and  
 5 away from said roll storage system storage roll, said guide member  
 including a guide member conveyor table and pivot pin, said guide  
 member pivot pin being adjustably mounted to said roll storage  
 system housing wherein said guide member conveyor table is  
 rotatably mounted about said guide member pivot pin, said guide  
 10 member conveyor table including a conveyor table transfer conveyor,  
 said conveyor table transfer conveyor mounted for guiding each of  
 said sheet members.

9. The roll storage system according to claim 8, wherein said guide  
 member includes a guide member table slot guide mounted to said roll storage  
 15 system housing and a plurality of conveyor table extensions extending from said  
 guide member conveyor table, each of said guide member conveyor table extensions  
 are movably inserted into said guide member slot guide for axially displacing said  
 guide member conveyor table when said guide member conveyor table pivots about  
 said guide member pivot pin.

20 10. The roll storage system according to claim 8, wherein said roll storage  
 system storage roll includes a roll storage system storage roll coil and said guide

member conveyor table includes a conveyor table transfer end, said conveyor table transfer end is remotely mounted from said guide member pivot pin for engaging said roll storage system storage roll coil.

11. The roll storage system according to claim 8, wherein said conveyor  
5 table transfer conveyor comprises a transfer belt conveyor, said transfer belt conveyor includes a plurality of transfer conveyor endless belts, supporting conveyor rollers and back pressure conveyor rollers.

12. The roll storage system according to claim 11, wherein said conveyor  
10 transfer table conveyor comprises a first conveyor roller mounted coaxially with respect to said guide member pivot pin and a second conveyor roller mounted on said guide member conveyor table for guiding each of said transfer conveyor endless belts over said first and second conveyor rollers.

13. The roll storage system according to claim 12 further comprising a tensioning device mounted for guiding each of said transfer conveyor endless belts.

14. The roll storage system according to claim 13, wherein a roll storage  
15 system deflection roller and said second conveyor roller are coaxially and rotatably mounted for guiding said roll storage system storage film.

15. The roll storage system according to claim 8, wherein each of said sheet members comprise a banknote.

20 Please cancel the present Abstract on page 10 and substitute the Abstract attached hereto on separately number page 7 therefor.

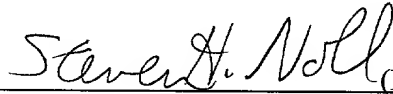
**REMARKS:**

The present amendment makes editorial changes in the specification, claims and abstract in order to conform to United States patent practice.

None of the changes in the claims is intended as a surrender of any of the  
5 subject matter within the scope of the original claim language since, as noted above,  
all of these changes have been solely to bring the claims into conformity with the  
requirements of 35 U.S.C. §112, second paragraph.

Early consideration of the application is respectfully requested.

Respectfully submitted,



(Reg. No. 28,982)

Steven H. Noll  
Hill & Simpson  
A Professional Corporation  
85<sup>th</sup> Floor - Sears Tower  
Chicago, Illinois 60606  
(312) 876-0200 - Ext. 3899  
Attorneys for Applicants



[illegible]

5

09/463495  
514 Rec'd PCT/PTO 25 JAN 2000

BOX PCT  
IN THE UNITED STATES DESIGNATED OFFICE  
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE  
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

**SUBMISSION OF DRAWINGS**

APPLICANTS: Ulrich Neumann et al  
ATTORNEY DOCKET NO.: P992572  
INTERNATIONAL APPLICATION NO: PCT/DE98/01856  
INTERNATIONAL FILING DATE: July 3, 1998  
INVENTION: "ROLL STORAGE SYSTEM FOR SHEET-SHAPED OBJECTS"

Assistant Commissioner for Patents,  
Washington, D.C. 20231

Sir:

Applicant herewith submits three sheets (Figs. 1-3) of drawings for the use in examination of the above-referenced PCT application.

Respectfully submitted,

Steven H. Noll (Reg No. 28,982)

Steven H. Noll  
Hill & Simpson  
A Professional Corporation  
85<sup>th</sup> Floor - Sears Tower  
Chicago, Illinois 60606  
(312)876-0200 ext. 3899  
Attorneys for Applicants

00520" 554E 9460

000270" 56463460

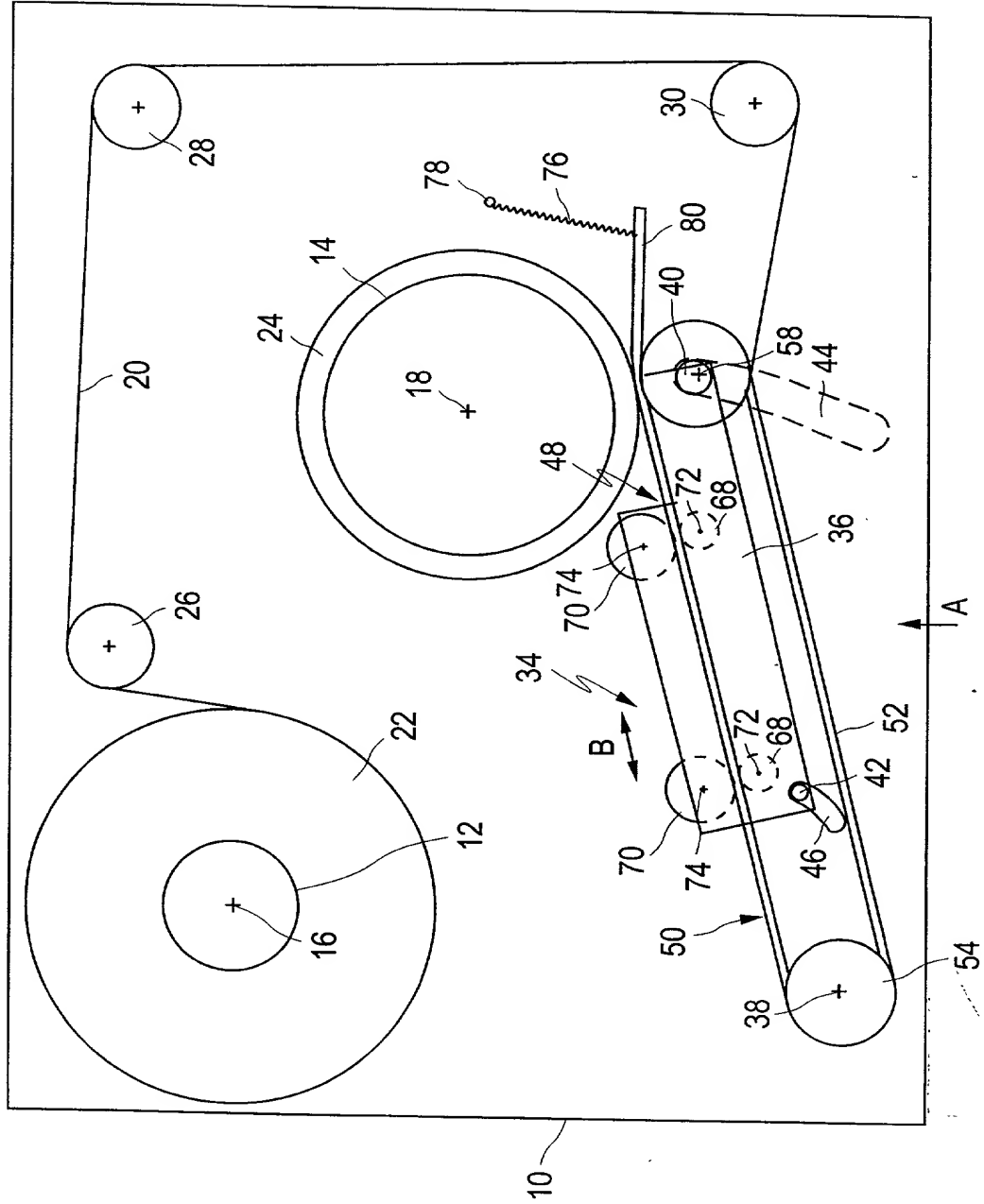


Fig. 1

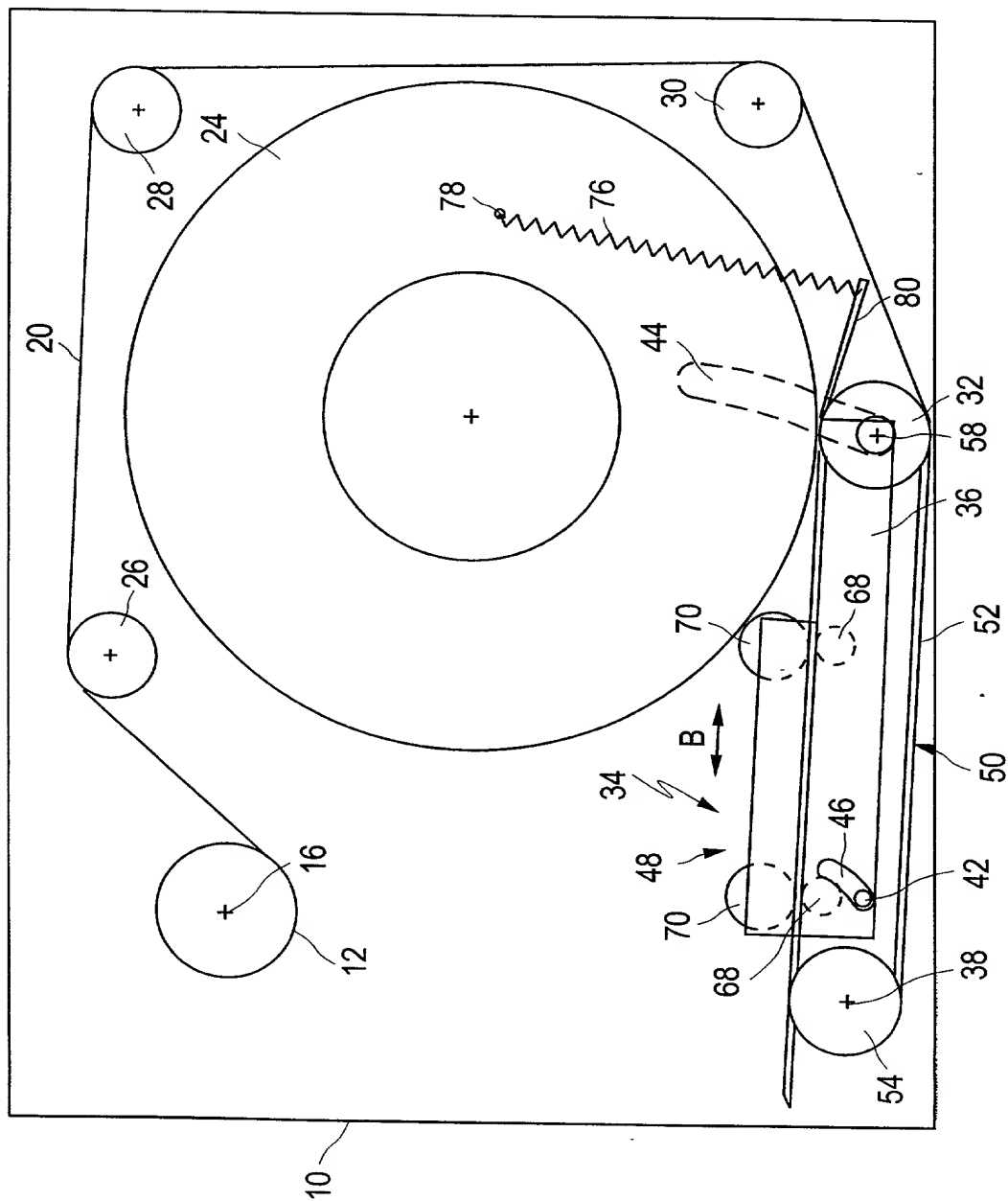


Fig. 2

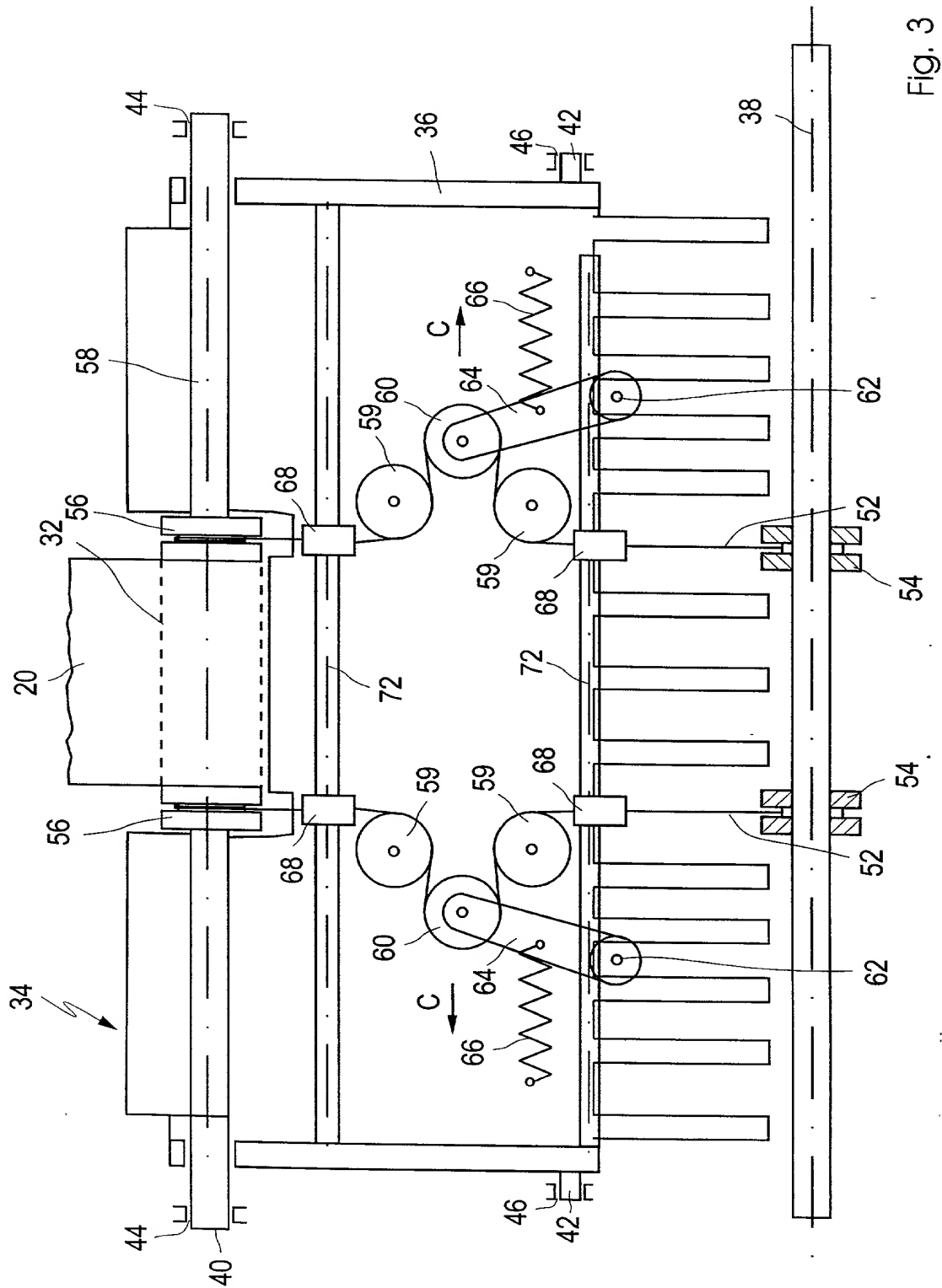


Fig. 3

3/PRTS

09/463495

PGT/PTD 25 JAN 2000

97P8070

Roll storage system for sheet-like objects

The invention relates to a roll storage system for sheet-like objects, in particular banknotes, having a housing, in which a supply roll for a storage film and a storage roll connected to said supply roll are mounted so that they can rotate, and each roll is coupled to a roll drive, the storage film being guided between the supply roll and the storage roll over at least one deflection roller, and having a guide device for guiding sheet-like objects into and out of the coil on the storage roll.

Such a roll storage system is disclosed, for example, by DE 30 42 566 C2. In the solution described there, the guide device is formed by a pair of stationary rollers arranged close to the inlet slot of the housing, the storage film being guided over one of these rollers. The banknotes running in through the inlet slot of the housing thus pass onto the storage film and into the coil on the storage roll. However, guidance of the banknotes running in is only ensured as long as the distance between the roller gap of the stationary pair of rollers and the point at which the storage film runs onto the coil of the storage roll is shorter than the dimension of the banknote in the conveying direction. This requirement limits the difference in diameter of the storage-roll coil which can be used for the storage, and consequently limits the storage capacity of the storage roll.

A means of guiding the banknotes, which is independent of the abovementioned distance, between the stationary pair of rollers and the point at which the storage film runs onto the storage-roll coil can be achieved by using two storage films, which are led together on the stationary pair of rollers and which enclose the banknotes running in between them.

005270" 664E9460

However, this solution, also described in DE 30 42 566 C2, has the disadvantage that two supply rolls are needed, with a corresponding drive mechanism, and that the storage-roll coil becomes thicker as a result of the dual film. Overall, although this means that the entire diameter range of the storage-roll coil can be used for the storage of banknotes, this is achieved at the expense of a relatively high technical outlay.

The invention is based on the object of specifying a roll storage system of the type mentioned at the beginning which, with a lower overall size and low technical outlay, has a relatively high storage capacity.

According to the invention, this object is achieved in that the guide device comprises a conveyor table which can be pivoted about a pivot pin fixed to the housing and can be adjusted parallel to the conveying direction, on which table there is arranged a transfer conveyor for guiding sheet-like objects into the coil and for removing sheet-like objects from the coil on the storage roll.

As a result of the conveyor table being arranged such that it can pivot, its plane can always be set, as the coil diameter changes, in such a way that it is oriented tangentially to the surface of the coil. The change, which occurs with the change in coil diameter, in the distance between an entry point for the sheet-like objects on the housing and the point at which the storage film runs onto the surface of the coil is compensated for by adjusting the conveyor table parallel to the conveying direction. This ensures that the sheet-like objects are guided independently of the current coil diameter, so that a significantly greater part of the coil diameter can be used for the storage of sheet-like objects than was previously usual. Trials have shown

005210"55423160

that, with the solution according to the invention, the storage capacity of the roll storage system operating with a storage film can be increased by 100% over conventional solutions.

5           The conveyor table is preferably guided by at least one extension in a slot guide fixed to the housing, in such a way that during a pivoting movement it is forcibly displaced parallel to the conveying direction. At the same time, the transfer end of the  
10 conveyor table, remote from the pivot pin, is expediently pretensioned so as to rest on the coil on the storage roll, so that the position of the conveyor table is automatically adapted to the coil diameter.

15           In a preferred embodiment of the invention, the transfer conveyor comprises a belt conveyor having an endless belt and supporting and back-pressure rollers interacting therewith. The endless belt is guided over a first roller, mounted coaxially with respect to the pivot pin of the conveyor table, and over a second  
20 roller, mounted on the conveyor table. The result of the translational adjustment of the conveyor table relative to the pivot pin is that the length of the endless belt must also change. Although this could, in principle, be counterbalanced by the use of an elastic  
25 endless belt, provided the adjustment travel is not very large, it is more expedient for the endless belt of the belt conveyor to be guided over a tensioning device which ensures that the tension, and therefore also the transporting properties of the endless belt,  
30 always remain constant.

          This solution therefore ensures that the distance between the discharge end of the transfer conveyor and the transfer end of the conveyor table always remains constant, irrespective of the coil  
35 diameter of the storage roll and the distance between the entry point of the sheet-



like objects on the storage housing and the point at which the storage film runs onto the storage-roll coil.

The second roller of the belt conveyor is preferably arranged coaxially with respect to a deflection roller of the storage film and is fixed so that it rotates with said roller, so that the belt conveyor is driven by the storage film. This dispenses with a dedicated drive for the transfer conveyor and any necessary synchronization of such a drive with the drive of the storage roll.

Further features and advantages of the invention emerge from the following description which, in conjunction with the appended drawings, explains the invention using an exemplary embodiment. In the drawings:

Figure 1 shows a schematic side view of the roll storage system according to the invention in the direction of the axis of the storage roll, with a small diameter of the storage-roll coil,

Figure 2 shows a view corresponding to Figure 1 with a maximum diameter of the storage-roll coil, and

Figure 3 shows a schematic view of the conveyor table from below, that is to say in the direction of the arrow A in Figure 1.

The roll storage system illustrated in Figures 1 and 2 comprises a housing 10, in which a supply roll 12 and a storage roll 14 are mounted such that they can rotate about pins 16 and 18 fixed to the housing. A storage film 20 is connected both to the supply roll 12 and to the storage roll 14 and can be wound to and fro between these two rolls, forming a supply coil 22 and a storage-roll coil 24, respectively. For this purpose, the rolls 12 and 14 are connected to suitable

drive devices (not illustrated). The storage film is guided between the supply roll 12 and the storage roll 14 over stationary deflection rollers 26, 28, 30 and a movable deflection roller 32 (Figure 3), which is mounted on a conveyor table (designated in general terms by 34), which is to be explained in more detail in the following text.

The conveyor table 34 has a frame 36 which, when the conveyor table 34 is adjusted between the positions illustrated in Figures 1 and 2, simultaneously executes a pivoting movement about a shaft 38 fixed to the housing and a translatory movement in the direction of the double arrow B, that is to say parallel to the conveying direction. For this purpose, the frame 36 has front and rear extensions 40, 42 which project laterally and engage in curved guide slots 44, 46 which are fixed in the housing, as is illustrated in Figures 1 and 2.

Furthermore, the conveyor table 34 comprises a transfer conveyor 48 for transferring banknotes to the storage-roll coil 24 and, respectively, for removing banknotes from the storage-roll coil 24. The transfer conveyor comprises a belt conveyor 50 having an endless belt 52. The latter is guided over two first rollers 54, mounted such that they can rotate at an axial distance from each other on the pivot shaft 38, and second rollers 56 which, together with the movable deflection roller 32, are mounted so that they can rotate on a shaft 58, which is held in the frame 36 of the conveyor table 34.

If the frame 36 of the conveyor table 34 is adjusted in the direction of the double arrow B, the distance between the shafts 38 and 58 changes. In order to keep the tension on the endless belt 52 constant during this change in the distance, in each case a tensioning device is provided, comprising two deflection rollers 59 and a tensioning roller 60, which is mounted on a pivoting lever 64 which is mounted such

97P8070

- 5a -

that it can pivot about a pivot pin 62 on the frame 36.  
The pivoting lever

005210" 65423460

64 is pretensioned by a tension spring 66 in the direction of the arrow C in Fig. 3.

Pairs of rollers, which each comprise a supporting roller 68 supporting the endless belt and a back-pressure roller 70 in each case assigned to said supporting roller, interact with the top run of the endless belt 52, the rollers 68 and 70 being mounted on the frame 36 such that they can rotate about pins 72 and 74, respectively.

In the state of the roll storage system illustrated in Figure 1, the storage film 20 has been wound completely onto the supply roll 12. The storage-roll coil 24 thus has its smallest diameter. In this position, the conveyor table 34, under the action of a tension spring 76, which acts on the one hand on a point 78 fixed to the housing and on the other hand on an extension 80 of the frame 36, assumes its uppermost position, in which the conveyor table 34 rests on the surface of the storage-roll coil 24. In this position, the shafts 38 and 58 of the belt conveyor 50 are at their greatest distance from each other.

Figure 2 shows the roll storage system in a state in which the storage-roll coil 24 has its greatest diameter. As a result of the growing storage-roll coil 24, the conveyor table 34 resting on its surface is pressed downward counter to the force of the tension spring 76. During this downward pivoting movement, the frame 36 is displaced in the direction of the pivot shaft 38 as the result of the extensions 40 and 42 sliding in the slot guides 44, 46.

Since the belt conveyor 50, just like the shaft 58, is arranged on the frame 36 of the conveyor table 34, said belt conveyor follows the movement of the latter. This means that the distance of the gap, formed between the back-pressure rollers 70 and the supporting rollers 68, from the point at which the storage film 20 runs onto the storage-roll coil 24 always remains constant. As a result, irrespective of the diameter of the

005270" 55423460

storage-roll coil 24, constantly good guidance for the sheet-like objects as they run into the storage-roll coil 24 or during the removal operation from the storage-roll coil 24 is always ensured. It is therefore possible to use a greater difference between the smallest coil diameter and the largest coil diameter of the storage-roll coil. Given the same overall size of the roll storage system as a whole, it is thus possible for the storage volume to be increased considerably.

005270" 66463460

**Patent claims**

1. A roll storage system for sheet-like objects, in particular banknotes, having a housing (10), in which a supply roll (12) for a storage film (20) and a storage roll (14) connected to said supply roll are mounted so that they can rotate, and each roll is coupled to a roll drive, the storage film (20) being guided between the supply roll (12) and the storage roll (14) over at least one deflection roller (26, 28, 30, 32), and having a guide device (34) for guiding sheet-like objects into and out of the coil (24) on the storage roll (12), characterized in that the guide device comprises a conveyor table (34) which can be pivoted about a pivot pin (38) fixed to the housing and can be adjusted parallel to the conveying direction (B), on which table there is arranged a transfer conveyor (48) for guiding sheet-like objects into the coil (24) and for removing sheet-like objects from the coil (24) on the storage roll (14).

2. The roll storage system as claimed in claim 1, characterized in that the conveyor table (34) is guided by at least one extension (40, 42) in a slot guide (44, 46) fixed to the housing, in such a way that during a pivoting movement it is forcibly displaced parallel to the conveying direction (B).

3. The roll storage system as claimed in claim 1 or 2, characterized in that the transfer end of the conveyor table (34), remote from the pivot pin (38), is pretensioned so as to rest on the coil (24) on the storage roll (14).

4. The roll storage system as claimed in one of claims 1 to 3, characterized in that the transfer conveyor (48) comprises a belt conveyor (50) having at least one endless

005270" 544E3460

belt (52) and supporting and back-pressure rollers (68, 70) interacting therewith.

5. The roll storage system as claimed in claim 4, characterized in that the endless belt (52) of the belt conveyor (50) is guided over a first roller (54), mounted coaxially with respect to the pivot pin (38) of the conveyor table (34), and over a second roller (56), mounted on the conveyor table (34).

6. The roll storage system as claimed in claim 5, characterized in that the endless belt (52) is guided over a tensioning device (59, 60, 64, 66).

7. The roll storage system as claimed in claim 5 or 6, characterized in that the second roller (56) of the belt conveyor (50) is arranged coaxially with respect to a deflection roller (32) of the storage film (20) and is fixed so that it rotates with said roller.

005210" 3342346

**Abstract**

In a roll storage system for sheet-like objects, in particular banknotes, having a housing (10), in which a supply roll (12) for a storage film (20) and a storage roll (14) connected to said supply roll are mounted so that they can rotate, and each roll is coupled to a roll drive, the storage film (20) being guided between the supply roll (12) and the storage roll (14) over at least one deflection roller (26, 28, 30), and having a guide device (34) for guiding sheet-like objects into and out of the coil (24) on the storage roll (12), the guide device comprises a conveyor table (34) which can be pivoted about a pivot pin (38) fixed to the housing and can be adjusted parallel to the conveying direction (B), on which table there is arranged a transfer conveyor (48) for guiding sheet-like objects into the coil (24) and for removing sheet-like objects from the coil (24) on the storage roll (14).

(Figure 1)

005210" 554E9750

1



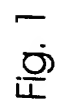


Fig. 1

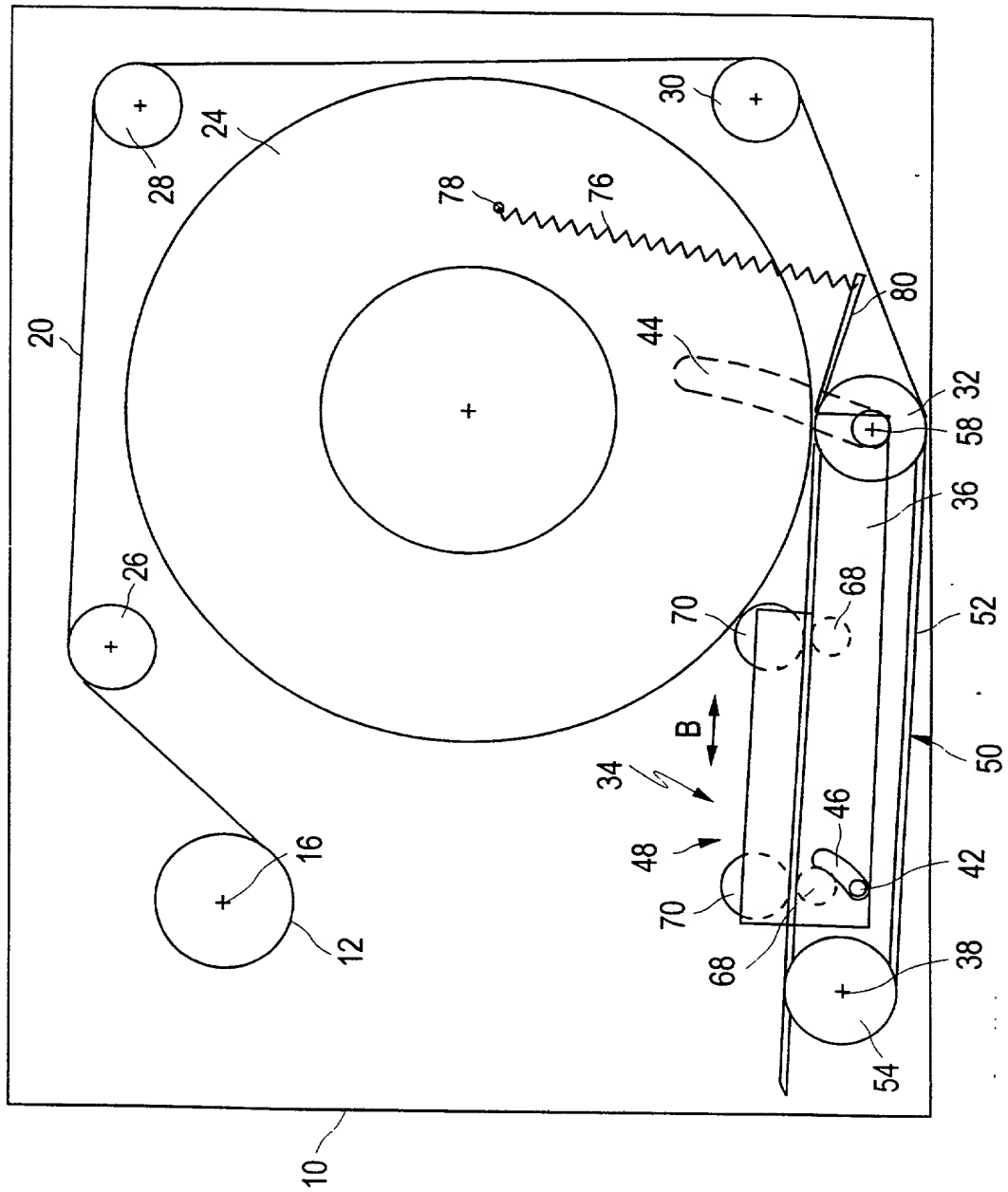


Fig. 2

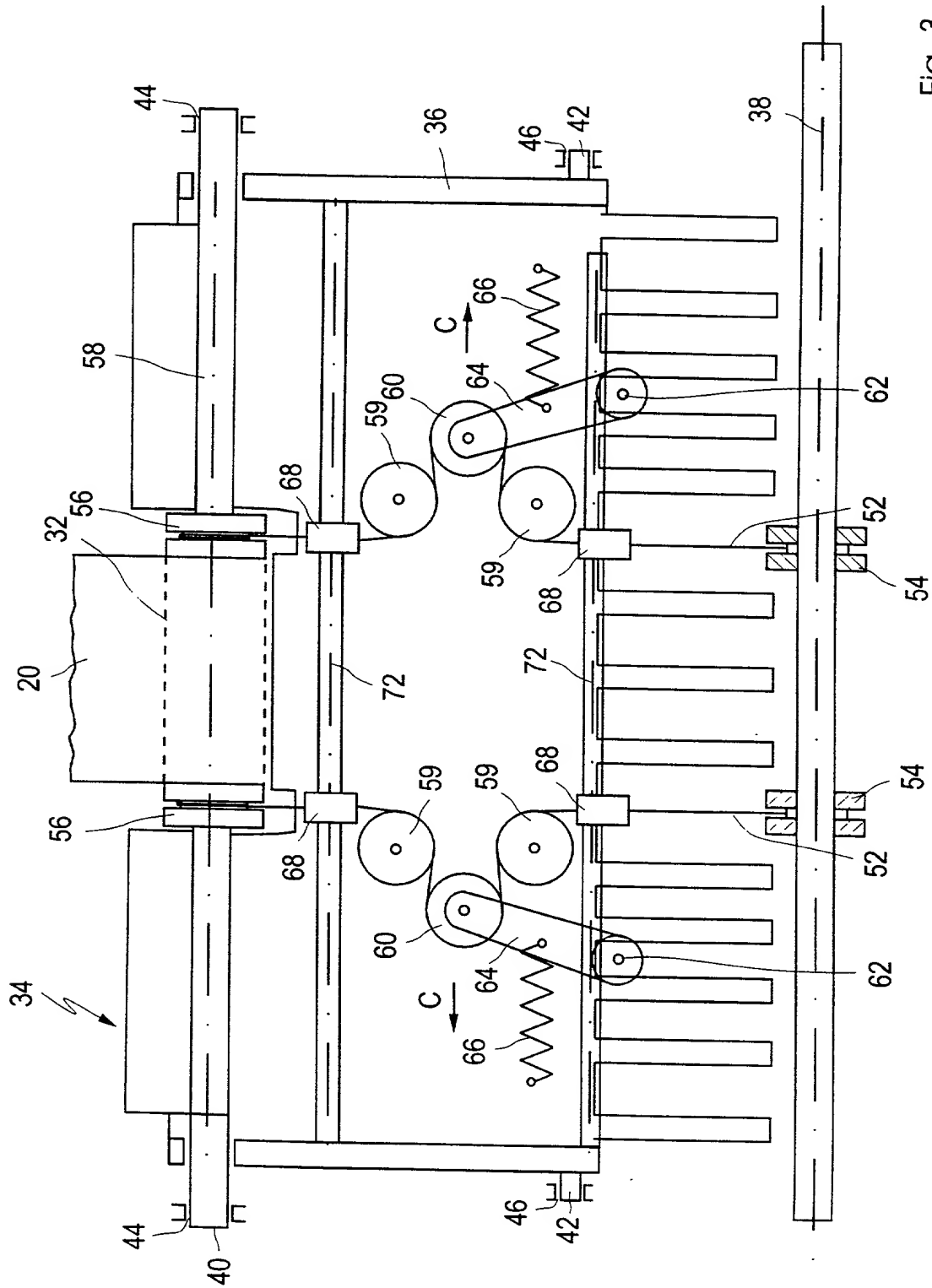


Fig. 3

# Declaration and Power of Attorney For Patent Application

## *Erklärung Für Patentanmeldungen Mit Vollmacht*

### German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

Rollenspeicher für  
blattförmige Gegenstände

deren Beschreibung

(zutreffendes ankreuzen)

☒ hier beigefügt ist.

☐ am \_\_\_\_\_ als

PCT internationale Anmeldung

PCT Anmeldungsnummer \_\_\_\_\_

eingereicht wurde und am \_\_\_\_\_

abgeändert wurde (falls tatsächlich abgeändert).

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

the specification of which

(check one)

☐ is attached hereto.

☐ was filed on \_\_\_\_\_ as

PCT international application

PCT Application No. \_\_\_\_\_

and was amended on \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

## German Language Declaration

Prior foreign applications  
Priorität beansprucht

Priority Claimed

19732129.1 Germany

(Number) (Country)  
(Nummer) (Land)

25 July 1997

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

☒  
Yes  
Ja

☐  
No  
Nein

(Number) (Country)  
(Nummer) (Land)

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

☐  
Yes  
Ja

☐  
No  
Nein

(Number) (Country)  
(Nummer) (Land)

(Day Month Year Filed)  
(Tag Monat Jahr eingereicht)

☐  
Yes  
Ja

☐  
No  
Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.)  
(Anmeldeseriennummer)

(Filing Date)  
(Anmeldedatum)

(Status)  
(patentiert, anhängig,  
aufgegeben)

(Status)  
(patented, pending,  
abandoned)

(Application Serial No.)  
(Anmeldeseriennummer)

(Filing Date)  
(Anmeldedatum)

(Status)  
(patentiert, anhängig,  
aufgegeben)

(Status)  
(patented, pending,  
abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden können, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

## German Language Declaration

VERTRETUNGSVOLLMACHT: Als benannter Erfinder beauftrage ich hiermit den nachstehend benannten Patentanwalt (oder die nachstehend benannten Patentanwälte) und/oder Patent-Agenten mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Geschäfte vor dem Patent- und Warenzeichenamt: (Name und Registrationsnummer anführen)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

19

And I hereby appoint  
Messrs. John D. Simpson (Registration No. 19,842), Lewis T. Steadman (17,074), William C. Stueber (16,453), P. Phillips Connor (19,259), Dennis A. Gross (24,410), Marvin Moody (16,549), Steven H. Noll (28,982), Brett A. Valiquet (27,841), Thomas I. Ross (29,275), Kevin W. Guynn (29,927), Edward A. Lehmann (22,312), James D. Hobart (24,149), Robert M. Barrett (30,142), James Van Santen (16,584), J. Arthur Gross (13,615), Richard J. Schwarz (13,472) and Melvin A. Robinson (31,870), David R. Metzger (32,919), John R. Garrett (27,888) all members of the firm of Hill, Steadman & Simpson, A Professional Corporation.

Telefongespräche bitte richten an:  
(Name und Telefonnummer)

Direct Telephone Calls to: (name and telephone number)

312/876-0200  
Ext. \_\_\_\_\_

Postanschrift:

Send Correspondence to:

**HILL, STEADMAN & SIMPSON**  
**A Professional Corporation**  
85th Floor Sears Tower, Chicago, Illinois 60606

<p>Voller Name des einzigen oder ursprünglichen Erfinders: <b>NEUMANN, Ulrich</b></p>	<p>Full name of sole or first inventor:  </p>
<p>Unterschrift des Erfinders                      Datum <i>Ulrich Neumann</i>                      <b>29.06.98</b></p>	<p>Inventor's signature                      Date  </p>
<p>Wohnsitz <b>D-59556 Lippstadt, Deutschland</b></p>	<p>Residence <b>DEX</b></p>
<p>Staatsangehörigkeit <b>Bundesrepublik Deutschland</b></p>	<p>Citizenship  </p>
<p>Postanschrift <b>Drosselweg 1</b> <b>D-59556 Lippstadt</b> <b>Bundesrepublik Deutschland</b></p>	<p>Post Office Address  </p>
<p>Voller Name des zweiten Miterfinders (falls zutreffend): <b>KRAFFT, Manfred</b></p>	<p>Full name of second joint inventor, if any:  </p>
<p>Unterschrift des Erfinders                      Datum <i>Manfred Krafft</i>                      <b>26.06.98</b></p>	<p>Second Inventor's signature                      Date  </p>
<p>Wohnsitz <b>D-33154 Salzkotten, Deutschland</b></p>	<p>Residence <b>DEX</b></p>
<p>Staatsangehörigkeit <b>Bundesrepublik Deutschland</b></p>	<p>Citizenship  </p>
<p>Postanschrift <b>Landwehrweg 25</b> <b>D-33154 Salzkotten</b> <b>Bundesrepublik Deutschland</b></p>	<p>Post Office Address  </p>

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).

00321075423460

210

294804120

002 12 22 000000000000

Voller Name des dritten Miterfinders: <b>TAUCHERT, Klaus</b>		Full name of third joint inventor:	
Unterschrift des Erfinders <i>Klaus Tauchert</i>	Datum <b>23.06.98</b>	Inventor's signature	Date
Wohnsitz <b>D-78052 Villingen-Schwenningen</b>		Residence <b>DEX</b>	
Staatsangehörigkeit <b>Bundesrepublik Deutschland</b>		Citizenship	
Postanschrift <b>Danziger Str. 19</b>		Post Office Address	
<b>D-78052 Villingen-Schwenningen</b>			
<b>Bundesrepublik Deutschland</b>			
Voller Name des vierten Miterfinders (falls zutreffend):		Full name of fourth joint inventor, if any:	
Unterschrift des Erfinders	Datum	Inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	
Voller Name des fünften Miterfinders (falls zutreffend):		Full name of fifth joint inventor, if any:	
Unterschrift des Erfinders	Datum	Inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	
Voller Name des sechsten Miterfinders (falls zutreffend):		Full name of sixth joint inventor, if any:	
Unterschrift des Erfinders	Datum	Inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).

002 12 22 000000000000